

Amendments to the Specification:

Please replace paragraph [0061] of the published application with the following amended paragraph:

[0061] The ballistically deposited samples were found to be predominately crystalline. Silicon nanoparticles were ballistically deposited on a glass substrate according to ~~EXAMPLE 1~~ EXAMPLE 2. The XRD pattern of the silicon nanoparticles provided in FIG. 3 shows sharp peaks corresponding to the diamond cubic positions of crystalline silicon. The large broad peak at about 30° is probably predominately the glass substrate, but may also mask contributions from an amorphous component, for example, amorphous silicon oxide that forms readily on the surface of silicon.

Please replace paragraph [0069] of the published application with the following amended paragraph:

[0069] The nanocrystalline silicon clusters were prepared by deposition onto a nickel-coated fiberglass as described in ~~EXAMPLE 1~~ EXAMPLE 2. **FIG. 7** provides SEM images of the nickel-coated fibers before (**FIG. 7a**) and after (**FIG. 7b**) the silicon deposition, and after the first complete electrochemical alloying with lithium (discharge) (**FIG. 7c**). The nickel-coated fibers in **FIG. 7a** have a smooth metallic surface and are approximately 8 µm in diameter. **FIG. 7b** illustrates a conformal deposition of the silicon particles onto the metal-coated fibers. The nanoparticles are assembled into small islands of secondary particles (aggregates) approximately 100 nm in diameter. The smooth irregular surface of **FIG. 7c** suggests the formation of a passivation layer upon lithiation.

Please replace paragraph [0071] of the published application with the following amended paragraph:

[0071] Additional electrodes of nanocrystalline silicon clusters were prepared by ballistic consolidation on a rough, planar substrate as described in EXAMPLE 1 EXAMPLE 2. The voltage profiles from electrochemical cycles 1, 25, and 50 are displayed in **FIG. 8c**. The differential capacity for these cycles is shown in **FIG. 8d**. This electrode exhibited an initial discharge capacity of 2400 mAh/g during the first insertion of lithium, and a subsequent charge capacity of 1000 mAh/g, giving a coulombic efficiency of 41% for the first cycle. This high irreversible capacity was limited to the first cycle, however. Cycles 2–50 demonstrate a stable specific capacity of approximately 1000 mAh/g (**FIG. 9**). The capacity fade correlates inversely with the coulombic efficiency, which was found to increase steadily up to 96% by cycle number 9 (**FIG. 10**). In this reversible region, the nanocrystalline electrode exhibited a mean capacity loss of approximately 20 mAh/g per cycle with a final capacity of 525 mAh/g on cycle number 50.

Please replace paragraph [0072] of the published application with the following amended paragraph:

[0072] The thin amorphous silicon films synthesized according to EXAMPLE 2 EXAMPLE 1 displayed excellent electrochemical properties. The voltage profiles obtained from cycles 1, 25, and 50 are provided in **FIG. 8e**. The differential capacity is provided in **FIG. 8f**. The initial discharge capacity of about 3500 mAh/g suggests that up to 3.6 lithium atoms per silicon atom are involved in the initial alloying. The following charge capacity of 2500 mAh/g (2.6 lithium atoms per silicon atom) yields a coulombic efficiency of 71% on the first cycle. Upon subsequent cycling, the electrode exhibited a rather stable specific capacity about 2000 mAh/g (**FIG. 9**). The capacity stabilization corresponds to an increase in the coulombic efficiency to 98% on cycle number 9 (**FIG. 10**). After 20 cycles, the amorphous thin film exhibited a mean capacity loss of only 8 mAh/g per cycle.